

IN THE CLAIMS:

Please cancel Claim 206, without prejudice or disclaimer of subject matter.

Please amend Claims 1-11, 14-16, 20-46, 48-59, 69-101, 111-132, 135-151, 160-187, 189, and 199-205, and add new Claims 207-210. The following listing of claims will replace all prior versions and listings of claims in the present application:

Claim 1 (currently amended): Method of Communication method for communicating on a network (800) having that includes communication devices (801 to 809); ~~each communication device being adapted to determine, for each item of information which it has to transmit, the path to cause it to follow on the network and a transmission mode, which perform communications in a connected mode or a non-connected mode,~~ which perform communications in a connected mode or a non-connected mode, said method comprises comprising:

- for each at least one of the communication device devices, which is to effect a transmission in the connected mode, an information operation (313) during which ~~[[said]] the communication device broadcasts, to all the other communication devices in on the~~ network, an item of information (253) representing ~~the~~ a passband necessary for ~~[[said]] the~~ transmission in the connected mode, and mode;

- ~~an~~ a passband allocation operation of allocating ~~[[a]] the~~ passband (1221), ~~during which there is allocated, on the one hand, to the for connected-mode~~ transmissions in connected mode, the passband which is necessary to them and, on the other hand, all or part of the passband available to each transmission to be effected in non-connected

mode based on the item of information, wherein the passband allocation operation is performed in coordination with all communication devices using the information operation;

- a second allocation operation of allocating for non-connected-mode transmissions all or part of the passband not allocated for the connected-mode transmissions, for each communication device that is to effect a transmission in the non-connected mode, wherein the second allocation operation is performed independently from other communication devices in the network; and

- an adjustment operation of adjusting the allocated passband to avoid congestion on the network.

Claim 2 (currently amended): Communication method according to Claim 1, further comprises comprising, for the establishment of a connection:

- effected by [[the]] a source communication device (801) intended to transmit information on [[said]] the path, an operation of transmitting (305), to each communication device placed on [[said]] the path, referred to as "intermediate" (803, 804), an item of information (251) representing the passband necessary for [[said]] the connection, and

- effected by each intermediate communication device on [[said]] the path, an operation of determining [[the]] an availability (1402, 1404) of [[the]] a link leading to [[the]] a following communication device on [[said]] the path and, in [[the]] an event of unavailability, an operation of transmitting (333), to the source communication device, an item of information representing the unavailability of [[said]] the path.

Claim 3 (currently amended): Communication method according to Claim [[1]] 2, further comprises comprising, for each transmission of information, a flow control operation performed by each of the intermediate communication devices on the path followed by [[said]] the item of information.

Claim 4 (currently amended): Communication method according to Claim 3, wherein the flow control operation performed by each intermediate communication device is performed in accordance with an IEEE 1355 standard.

Claim 5 (currently amended): Communication method according to Claim 1, further comprises comprising:

- for each communication device in the network, following each information operation, an operation of determining ~~the~~ a passband (1303, 1403, 1503) available on each link, taking into account [[said]] the item of information, and
- for each ~~so-called "source"~~ source communication device ~~which that~~ is to effect a transmission in the non-connected mode to a destination communication device:
  - an operation of determining [[the]] an availability of a path for a transmission in the non-connected mode, during which it is determined whether at least one path going from [[said]] the source communication device to [[sold]] a destination communication device is at least partially available for [[said]] the transmission, and

• and, ~~in the~~ if affirmative, an operation of transmitting on  
[[said]] the path, in the non-connected mode.

Claim 6 (currently amended): Communication method according to Claim 1,  
further ~~comprises~~ comprising an information transmission operation (254, 257, 259) ~~taking that~~  
takes several priority levels into account.

Claim 7 (currently amended): Communication method according to Claim 6,  
wherein a priority level is allocated to a transmission in the non-connected mode.

Claim 8 (currently amended): Communication method according to Claim 6,  
wherein, during the passband allocation operation (1221), ~~the~~ a passband associated with [[the]]  
a priority level corresponding to the non-connected mode varies as a function of a period, which  
did not give rise to any transmission.

Claim 9 (currently amended): Communication method according to Claim 8,  
wherein [[said]] the period is a period separating [[the]] a last transmission in the non-connected  
mode and [[the]] a next transmission in the connected mode.

Claim 10 (currently amended): Communication method according to Claim 6,  
wherein, during the passband allocation operation (1221), [[the]] a passband associated with

[[the]] a priority level corresponding to the non-connected mode varies as a function of a number of packets not transmitted during a predetermined period.

Claim 11 (currently amended): Communication method according to Claim 6, wherein [[the]] predictive real-time traffic is transmitted with a priority level greater than that of the guaranteed real-time traffic.

Claim 12 (previously presented): Communication method according to Claim 6, wherein each priority level is associated with a list of virtual channels (1105 to 1110), successively used.

Claim 13 (canceled)

Claim 14 (currently amended): Communication method according to Claim 12, further comprises comprising a traffic parameter determination operation (1221), during which a size of packets transmitted on [[said]] the network is determined, wherein said traffic parameter determination operation taking takes into account [[the]] a load on [[said]] the network.

Claim 15 (currently amended): Communication method according to Claim 12, further comprises comprising a traffic parameter determination operation (1221),

during which a number of packets to be sent on ~~[[said]] the~~ network is determined, wherein said traffic parameter determination operation ~~taking takes~~ into account ~~[[the]] a~~ load on ~~[[said]] the~~ network.

Claim 16 (currently amended): Communication method according to Claim 12, further ~~comprises~~ comprising a traffic parameter determination operation (1221), during which a period available for sending ~~[[the]]~~ packets remaining to be sent on ~~[[said]] the~~ network is determined, wherein said traffic parameter determination operation ~~taking takes~~ into account ~~[[the]] a~~ load on ~~[[said]] the~~ network.

Claims 17-19 (canceled)

Claim 20 (currently amended): Communication method according to Claim 6, further ~~comprises~~ comprising a control information transmission operation, during which each item of control information is transmitted with ~~[[the]] a~~ highest priority level.

Claim 21 (currently amended): Communication method according to Claim 6, wherein, for at least one priority level, ~~[[the]]~~ information not transmitted during a predetermined interval of time is eliminated before transmission.

Claim 22 (currently amended): Communication method according to Claim 6,

wherein, for at least one priority level, [[the]] information not transmitted during a predetermined interval of time is stored in order to be transmitted during [[the]] a following time interval.

Claim 23 (currently amended): Communication method according to Claim 1, wherein [[the]] real-time traffic, predictive or guaranteed, is transmitted in the connected mode.

Claim 24 (currently amended): Communication method according to Claim 1, wherein [[the]] elastic traffic is transmitted in the non-connected mode.

Claim 25 (currently amended): Communication method according to Claim 1, further comprises comprising, for each communication device placed on [[the]] a path intended to be followed [[by]] in a transmission in the connected mode, a checking operation (1404), during which it is checked that the passband necessary for [[said]] the transmission is available on [[said]] the path.

Claim 26 (currently amended): Communication method according to Claim 1, wherein, for [[the]] predictive traffic, ~~the~~ information not transmitted during a predetermined time interval is eliminated before transmission.

Claim 27 (currently amended): Communication method according to Claim 1, wherein, for the guaranteed traffic, [[the]] information not transmitted during a predetermined

time interval is stored in order to be transmitted during ~~[[the]]~~ a following time interval.

Claim 28 (currently amended): ~~Method~~ Communication method according to Claim 1, wherein each communication device effects each information transmission by packet switching.

Claim 29 (currently amended): Communication method according to Claim 1, further comprises comprising, for establishing a connection:

A/ performed by a communication device ~~which~~ that is a source of information to be transmitted in the connected mode:

- an operation of determining a passband requirement for ~~the~~ transmission of ~~[[said]]~~ the information in the connected mode,
- an operation of determining any path available for ~~[[said]]~~ the transmission, according to information stored in a load table for each link in the network, ~~[[and]]~~
- when an available path is determined:
  - o an operation of sending an item of information representing ~~[[said]]~~ the passband requirement to ~~[[the]]~~ a following communication device on ~~[[said]]~~ the path, and
  - o an operation of updating ~~[[said]]~~ the load table for ~~the links~~ each link in the network, and
- an operation of broadcasting, to at least all ~~[[the]]~~ communication



devices outside the path, an item of information representing ~~[[said]]~~ the passband requirement,

B/ performed by each intermediate communication device on ~~[[said]]~~ the path:

- an operation of determining an availability of ~~[[said]]~~ the path, ~~for said~~ for a communication, according to information stored in a load table for each link in the network, and

- when the path is available:

- ° an operation of sending an item of information representing ~~[[said]]~~ the passband requirement, ~~to the~~ to a following communication device on the path, and
  - ° an operation of updating a load table for ~~the links~~ each link in the network, and

C/ performed by each communication device outside ~~[[said]]~~ the path:

- an operation of updating a load table for ~~the links~~ each link in the network.

Claim 30 (currently amended): Communication method according to Claim 1, between communication devices each able to determine, for each item of information ~~which it has to transmit to be transmitted~~, a path ~~to cause it~~ for the information to follow, further ~~comprises comprising~~:

- performed by each so-called "~~source~~" source communication device, which requires a connection associated with a path, in order to effect a transmission of information to a destination communication device, an operation of requesting a connection,

during which the source communication device sends, to each communication device on [[said]]  
the path, a request to establish a connection,

- when establishment of [[said]] the connection is possible, performed by  
at least the destination communication device, an operation of sending, to the source  
communication device, a connection acceptance,

- performed by the source communication device, an operation of  
broadcasting, to all [[the]] communication devices in the network, an item of information  
representing the establishment of the connection,

- performed by each communication device on [[said]] the path, on  
reception of [[said]] the information representing the establishment of [[a]] the connection, an  
operation of confirmation of establishment of [[said]] the connection, and

- performed by each communication device outside [[said]] the path, on  
reception of [[said]] the information representing the establishment of [[a]] the connection, an  
operation of storing an item of information representing [[said]] the connection.

Claim 31 (currently amended): Device for communication Communication  
device for communicating on a network having that includes communication devices, each  
communication device being adapted to determine, for each item of information which it has to  
transmit, a path to cause it to follow on the network and a transmission mode, which perform  
communications in a connected mode or [[not]] a non-connected mode, said device comprises  
comprising:

- [[an]] information means, adapted, for [[each]] transmission in the connected mode, to broadcast, ~~to all the other communication devices in on~~ the network, an item of information representing [[the]] a passband necessary for [[said]] the transmission in the connected mode, and mode;

- [[a]] passband allocation means, adapted to allocate, ~~on the one hand,~~ ~~to the transmissions in connected mode,~~ the passband which is necessary to them, and, ~~on the other hand,~~ all or part of the passband available to each transmission to be effected in non-connected mode for the transmission in the connected mode, wherein said passband allocation means is adapted to allocate, to a transmission to be effected in the non-connected mode, all or part of the passband not allocated for the connected mode, independently from other communication devices in the network; and

= adjusting means, adapted to adjust the allocated passband to avoid congestion on the network.

Claim 32 (currently amended): Communication device according to Claim 31, wherein:

- [[the]] said information means is adapted, for [[the]] establishment of a connection, to transmit, to each communication device placed on [[said]] a path, referred to as "intermediate", an item of information representing the passband necessary for [[said]] the connection, and

- it has a said communication device further comprising means [[of]] for

determining an availability in the connected mode, adapted, when said communication device is an intermediate communication device on a path intended to be associated with a connection, to determine ~~[[the]]~~ an availability of ~~[[the]]~~ a link leading to ~~[[the]]~~ a following communication device on ~~[[said]]~~ the path and, in ~~[[the]]~~ an event of unavailability, to cause ~~[[a]]~~ transmission means to transmit, to ~~[[the]]~~ a source communication device, an item of information representing the unavailability of ~~[[said]]~~ the path.

Claim 33 (currently amended): Communication device according to Claim ~~[[31]]~~ 32, further comprises ~~a~~ comprising flow control means, adapted, for each transmission of information in the non-connected mode for which said communication device is incorporated in an intermediate communication device, to check ~~[[the]]~~ an availability of the path followed by ~~[[said]]~~ the item of information.

Claim 34 (currently amended): Communication device according to Claim 33, wherein ~~[[it]]~~ said communication device is adapted to implement communication procedures in accordance with an IEEE 1355 standard.

Claim 35 (currently amended): Communication device according to Claim 31, further comprises comprising an available passband determination means, adapted:

- to determine ~~[[the]]~~ a passband available on each link of a path associated with a connection, on reception of each item of information representing a passband

coming from another communication device, taking ~~[[said]]~~ the item of information into account, and

- when said communication device must effect a transmission in the non-connected mode to a destination communication device, to determine ~~[[the]]~~ at least a partial availability of at least one path going from ~~[[said]]~~ a source communication device to ~~[[said]]~~ the destination communication device for a transmission in the non-connected mode.

Claim 36 (currently amended): Communication device according to Claim 31, further ~~comprises an~~ comprising information transmission means ~~taking, adapted to take~~ into account several priority levels.

Claim 37 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said information transmission means ~~is adapted so that~~ allocates a priority level is ~~allocated to the~~ to a transmission in the non-connected mode.

Claim 38 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said passband allocation means is adapted so that ~~the~~ to vary passband associated with ~~[[the]]~~ a priority level corresponding to the non-connected mode ~~varies~~ according to a period, which has not given rise to any transmission.

Claim 39 (currently amended): Communication device according to Claim 38,

wherein ~~[[the]]~~ said passband allocation means is adapted so that ~~[[said]]~~ the period is ~~[[the]]~~ a period separating ~~[[the]]~~ a last transmission in the non-connected mode and ~~[[the]]~~ a next transmission in the connected mode.

Claim 40 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said passband allocation means is adapted ~~so that the~~ to vary a passband associated with ~~[[the]]~~ a priority level corresponding to the non-connected mode ~~varies~~ according to a number of packets not transmitted during a predetermined period.

Claim 41 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said information transmission means is adapted so that ~~[[the]]~~ predictive real-time traffic is transmitted with a priority level higher than that of ~~[[the]]~~ guaranteed real-time traffic.

Claim 42 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said information transmission means is adapted so that each priority level is associated with a list of virtual channels, used in succession.

Claim 43 (currently amended): Communication according to Claim 42, wherein ~~[[the]]~~ said information transmission means is adapted so that ~~[[said]]~~ the virtual channels are associated with ~~[[the]]~~ outgoing traffic.

Claim 44 (currently amended): Communication device according to Claim 42, wherein it includes a further comprising traffic parameter determination means, adapted to determine a size of packets transmitted on ~~[[said]]~~ the network, taking into account ~~[[the]]~~ a load on ~~[[said]]~~ the network.

Claim 45 (currently amended): Communication device according to Claim 42, further comprises a comprising traffic parameter determination means, adapted to determine a number of packets to be sent on ~~[[said]]~~ the network, taking into account ~~[[the]]~~ a load on ~~[[said]]~~ the network.

Claim 46 (currently amended): Communication device according to Claim 42, further comprises a comprising traffic parameter determination means, adapted to determine a period available for sending ~~[[the]]~~ packets remaining to be sent on ~~[[said]]~~ the network, taking into account ~~[[the]]~~ a load on ~~[[said]]~~ the network.

Claim 47 (canceled)

Claim 48 (currently amended): Communication device according to Claim 36, wherein the said information transmission means is adapted to transmit each item of control information with ~~[[the]]~~ a highest priority level.

Claim 49 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said information transmission means is adapted so that, for at least one priority level, ~~[[the]]~~ information not transmitted during a predetermined time interval is eliminated before transmission.

Claim 50 (currently amended): Communication device according to Claim 36, wherein ~~[[the]]~~ said information transmission means is adapted so that, for at least one priority level, ~~[[the]]~~ information not transmitted during a predetermined time interval is stored in order to be transmitted during ~~[[the]]~~ a following time interval.

Claim 51 (currently amended): Communication device according to Claim 31, wherein ~~it is adapted so that the~~ real-time traffic, predictive or guaranteed, is transmitted in the connected mode.

Claim 52 (currently amended): Communication device according to Claim 31, wherein ~~it is adapted so that the~~ elastic traffic is transmitted in the non-connected mode.

Claim 53 (currently amended): Communication device according to Claim 31, wherein each communication device ~~placed on~~ ~~[[the]]~~ a path intended to be followed by a transmission in the connected mode, ~~has a~~ includes checking means adapted to check that the passband necessary for ~~[[said]]~~ the transmission is available on ~~[[said]]~~ the path.



Claim 54 (currently amended): Communication device according to Claim 31, further ~~comprises a transmission~~ elimination means, adapted to eliminate [[the]] information not transmitted during a predetermined time interval, for [[the]] predictive traffic.

Claim 55 (currently amended): Communication device according to Claim 31, further ~~comprises a transmission~~ storage means, adapted to store, for a subsequent transmission, [[the]] information not transmitted during a predetermined time interval, for [[the]] guaranteed traffic.

Claim 56 (currently amended): ~~Device~~ Communication device according to Claim 31, wherein each communication device is adapted to implement a protocol for [[the]] transmission of information by packet switching.

Claim 57 (currently amended): Communication device according to Claim 31, further ~~comprises~~ comprising:

- [[a]] means [[of]] for determining a free time in [[said]] a base period after sequencing of all [[the]] transmissions, adapted to organise all [[the]] other transmissions, and
- [[a]] regulation means, adapted to regulate [[the]] a passband available for [[the]] transmissions in the non-connected mode.

Claim 58 (currently amended): Communication device according to Claim 57, wherein said regulation means is adapted:

- to reduce the passband allocated to [[the]] transmissions in the non-connected mode, when the free time is negative, and
- to increase [[the]] a passband allocated to [[the]] transmissions in the non-connected mode, when the free time is positive.

Claim 59 (currently amended): ~~Communication A~~ A device according to Claim 31, wherein:

- ~~it has~~ said device includes a memory, adapted to store a load table containing information relating to [[the]] a load on each link in the network, and
- [[it]] said device is adapted, for establishing a ~~connection~~ connection for [[the]] transmission of information in the connected mode:
  - to determine a passband requirement for the transmission of [[said]] information in the connected mode,
  - to determine any path available for [[said]] the transmission, according to information stored in [[said]] the load table, and, when an available path is determined,
  - to cause [[the]] transmission means to send an item of information representing [[said]] the passband requirement, ~~to the following~~ to a next communication device on [[said]] the path,

- to update ~~[[said]]~~ the load table, and
- to cause the transmission means to broadcast, to ~~at least all the~~ communication devices outside the path, an item of information representing ~~[[said]]~~ the passband requirement.

Claim 60 (canceled)

Claim 61 (previously presented): Computer, comprising a communication device according to Claim 31.

Claims 62-68 (canceled)

Claim 69 (currently amended): An information storage ~~[[means]]~~ medium, which ~~can be read~~ is readable by a computer or a microprocessor, storing instructions of a computer program, wherein ~~[[it]]~~ said medium allows ~~[[the]]~~ implementation of a communication method according to Claim 1.

Claim 70 (currently amended): An information storage ~~[[means]]~~ medium, which is removable, partially or totally, and which ~~can be read~~ is readable by a computer or a microprocessor, storing instructions of a computer program, wherein ~~[[it]]~~ said medium allows ~~[[the]]~~ implementation of a communication method according to Claim 1.

Claim 71 (currently amended): Method of communicating between communication devices (101 to 105, 801 to 809) in a packet switched network having that includes at least one switch (209), comprising a transmission mode determination operation (1302), during which, for each item of information to be transmitted, a transmission mode is ~~determined~~, determined to be a connected mode or a non-connected mode, and [[then]]

- for each item of information to be transmitted in the connected mode:
  - [[an]] a reservation operation (1304 to 1308, 301 to 313) of reserving a path on [[said]] the network, and [[then]]
    - [[an]] a transmission operation of transmitting [[said]] information (314), in the connected mode, on the path reserved during [[the]] said reservation operation, and
- for each item of information to be transmitted in the non-connected mode:
  - an availability estimation operation of estimating [[the]] an availability of a path on [[said]] the network, and ~~then, when a path is deemed to be available for transmission of said information;~~
    - [[an]] when a path is deemed to be available for transmission of information, a transmission operation of transmitting [[said]] information, on [[said]] the path, in the non-connected mode.

Claim 72 (currently amended): ~~Communication A~~ method according to

Claim 71, wherein ~~the path~~ said reservation operation includes an operation of transmitting (305), on ~~[[said]] the~~ path, a message (251) including information representing ~~[[the]]~~ an application requirement for transmission in the connected mode.

Claim 73 (currently amended): ~~Communication A~~ method according to Claim 71, wherein ~~the operation of reserving a path on said network~~ said reservation operation includes ~~[[an]]~~ a table updating operation of updating (1303, 1307, 1403, 1407, 1503, 1504) a load table (1100) stored by each communication device in the network.

Claim 74 (currently amended): ~~Communication A~~ method according to Claim 73, wherein, during the availability estimation operation, values stored in ~~[[the]]~~ a load table (1100) of ~~[[the]]~~ a communication device which that has at least one item of information to be transmitted are taken into account.

Claim 75 (currently amended): ~~Communication A~~ method according to Claim 73, wherein the table updating operation includes an operation of determining parameters (1303, 1403, 1503) representing ~~[[the]]~~ an application requirement for transmission in the connected mode.

Claim 76 (currently amended): ~~Communication A~~ method according to Claim 73, wherein the ~~[[load]]~~ table updating operation includes an operation of storing in

memory ~~[[the]]~~ a passband available for each link (1001 to 1004) on a path leaving ~~[[the]]~~ a communication device under consideration (1011 to 1013).

Claim 77 (currently amended): ~~Communication A~~ method according to Claim 73, wherein the ~~[[load]]~~ table updating operation includes an operation of storing in memory ~~[[the]]~~ a passband available for each link (1001 to 1007) in the network forming part of a path associated with a connection (1011 to 1015).

Claim 78 (currently amended): ~~Communication A~~ method according to Claim 71, wherein the ~~path~~ said reservation operation includes an operation of checking (1404, 1405), by means of each intermediate communication device (803, 804) on ~~[[said]]~~ the path, ~~[[the]]~~ an availability of ~~[[the]]~~ a path to be reserved.

Claim 79 (currently amended): ~~Communication A~~ method according to Claim 71, wherein the availability estimation operation ~~consists of~~ includes determining whether at least one path is at least partially available for transmission in the non-connected mode.

Claim 80 (currently amended): ~~Communication A~~ method according to Claim 71, wherein, during the availability estimation operation, information representing transmissions in the connected mode is taken into account.

Claim 81 (currently amended): ~~Communication A~~ method according to Claim 71, wherein the availability estimation operation is independent of any transmissions in the non-connected mode[[,]] coming from other communication devices in the network.

Claim 82 (currently amended): ~~Method A~~ method according to Claim 71, wherein the network uses ~~the IEEE 1355~~ a communication protocol according to an IEEE 1355 standard.

Claim 83 (currently amended): ~~Method A~~ method according to Claim 71, wherein [[the]] said reservation operation includes an operation of transmitting (305) a message (251) containing information representing each link on the path to be reserved.

Claim 84 (currently amended): ~~Method A~~ method according to Claim 71, wherein [[the]] said reservation operation includes:

- an operation of broadcasting (313) a table updating message (253) destined for all [[the]] communication devices in the network (802 to 809), and
- for each communication device in the network ~~which is not on the path~~ to be reserved, an operation of updating a load table (1504).

Claim 85 (currently amended): ~~Communication A~~ method according to Claim 71, further comprising, for establishing a connection:

A/ performed by a communication device which that is a source of information to be transmitted in the connected mode:

- an operation of determining a passband requirement for transmission of [[said]] the information in the connected mode,
- an operation of determining any path available for [[said]] the transmission, according to information stored in a load table for each link in the network, [[and]]
- when an available path is determined:
  - an operation of sending an item of information representing [[said]] the passband requirement to [[the]] a following communication device on [[said]] the path, and
  - an operation of updating [[said]] the load table for the links each link in the network, and
- an operation of broadcasting, to-at least all [[the]] communication devices outside the path, an item of information representing [[said]] the passband requirement, and

B/ performed by each intermediate communication device on [[said]] the path:

- an operation of determining [[the]] an availability of [[said]] the path~~[[.]]~~ for [[said]] a communication, according to information stored in a load table for each link in the network, and
- when the path is available:
  - an operation of sending an item of information



representing ~~[[said]]~~ the passband requirement to ~~[[the]]~~ a following communication device on ~~[[said]]~~ the path, and

- an operation of updating ~~[[said]]~~ the load table for the ~~links~~ each link in the network, and

C/ performed by each communication device outside ~~[[said]]~~ the path:

- an operation of updating a load table for the ~~links~~ each link in the network.

Claim 86 (currently amended): ~~Communication A~~ A method according to Claim 71, between communication devices each able to determine ~~[[the]]~~ a path to be followed by each item of information ~~which it has to send~~ to be transmitted, further comprising;

- performed by each so-called "~~source~~" a source communication device, which requires a connection associated with a path, in order to effect a transmission of information to a destination communication device, a ~~connect~~ connection request operation, during which the source communication device sends, to each communication device on ~~[[said]]~~ the path, a request for establishing a connection,

- when establishment of ~~[[said]]~~ the connection is possible, performed by at least the destination communication device, an operation of sending, to the source communication device, a connection acceptance,

- performed by the source communication device, an operation of broadcasting, to all the communication devices in the network, an item of information

representing the establishment of the connection,

- performed by each communication device on ~~[[said]]~~ the path, on reception of ~~[[said]]~~ the information representing the establishment of ~~[[a]]~~ the connection, an operation of confirming the establishment of ~~[[said]]~~ the connection, and

- performed by each communication device outside ~~[[said]]~~ the path, on reception of ~~[[said]]~~ the information representing the establishment of ~~[[a]]~~ the connection, an operation of storing in memory an item of information representing ~~[[said]]~~ the connection.

Claim 87 (currently amended): ~~Device~~ Communication device for communicating on a packet switched network ~~having~~ that includes at least one switch (209), comprising:

- ~~[[a]]~~ transmission mode determination means (204A, 204B, 206A, 206B, 234, 236), adapted to determine, for each item of information to be transmitted, a transmission mode~~[[,]]~~ corresponding to a connected mode or a non-connected[[,]] mode;

- ~~[[a]]~~ reservation means (204A, 204B, 206A, 206B, 234, 236), adapted, for each item of information to be transmitted in the connected mode, to reserve a path on ~~said network, the network~~;

- ~~[[a]]~~ path availability estimation means (204A, 204B, 206A, 206B, 234, 236), adapted, for each item of information to be transmitted in the non-connected mode, to estimate ~~[[the]]~~ an availability of at least one path~~[[,]]~~; and

- ~~[[a]]~~ transmissions means (204A, 204B, 206A, 206B, 234, 236),

adapted ~~on the one hand~~ to transmit, in the connected mode, each item of information to be transmitted in the connected mode~~[[,]]~~ on the path reserved by ~~[[the]]~~ said reservation means, and ~~[[on the other hand]]~~ to transmit, in the non-connected mode, on a path deemed to be available by ~~[[the]]~~ said path availability estimation means, each item of information to be transmitted in the non-connected mode.

Claim 88 (currently amended): Communication device according to Claim 87, wherein ~~[[the]]~~ said reservation means is adapted to cause ~~[[the]]~~ said transmission means to transmit, on ~~[[said]]~~ the path, a message (251) including information representing ~~[[the]]~~ an application requirement for transmission in the connected mode.

Claim 89 (currently amended): Communication device according to Claim 87, further comprising a memory, adapted to store a load table (1100) ~~and in that the,~~ wherein said reservation means is adapted to update ~~[[said]]~~ the load table.

Claim 90 (currently amended): Communication device according to Claim 89, wherein ~~[[the]]~~ said path availability estimation means is adapted to take into account values stored in the load table (1100) in order to estimate ~~[[the]]~~ an availability of a path.

Claim 91 (currently amended): Communication device according to Claim 89, wherein, in order to update the load table (1100), ~~[[the]]~~ said reservation means is adapted to

determine parameters representing [[the]] an application requirement for transmission in the connected mode.

Claim 92 (currently amended): Communication device according to Claim 89, wherein, in order to update the load table (1100), [[the]] said reservation means is adapted to store therein [[the]] a passband available for each link (1001 to 1004) in a path (1011 to 1013) leaving [[the]] a communication device under consideration.

Claim 93 (currently amended): Communication device according to Claim 89, wherein, in order to update the load table (1100), [[the]] said reservation means is adapted to store therein [[the]] a passband available for each link (1001 to 1007) in the network forming part of a path associated with a connection (1011 to 1015).

Claim 94 (currently amended): Communication device according to Claim 87, wherein [[the]] said path reservation means is adapted to cause each intermediate communication device (803, 804) on [[said]] the path to check [[the]] an availability of the path to be reserved.

Claim 95 (currently amended): Communication device according to Claim 87, wherein [[the]] said path availability estimation means is adapted to determine whether at least one path is at least partially available for transmission in the non-connected mode.

Claim 96 (currently amended): Communication device according to Claim 87, wherein ~~[[the]]~~ said path availability estimation means is adapted to take into account information representing transmissions in the connected mode.

Claim 97 (currently amended): Communication device according to Claim 87, wherein ~~[[the]]~~ said path availability estimation means is adapted not to take into account any transmissions in the non-connected mode coming from other communication devices in the network.

Claim 98 (currently amended): ~~Device~~ Communication device according to Claim 87, wherein ~~[[the]]~~ said transmission means is adapted to implement ~~the IEEE 1355 a~~ communication protocol according to an IEEE 1355 standard.

Claim 99 (currently amended): ~~Device~~ Communication device according to Claim 87, wherein ~~[[the]]~~ said reservation means is adapted to cause ~~[[the]]~~ said transmission means to transmit a message (251) containing including information representing each link on the path to be reserved for each transmission in the connected mode.

Claim 100 (currently amended): ~~Device~~ Communication device according to Claim 87, wherein ~~[[the]]~~ said reservation means is adapted:

- to cause ~~[[the]]~~ said transmission means to broadcast a table-updating

message (253) intended for all ~~[[the]]~~ communication devices in the network, and

- when ~~[[the]]~~ a communication device ~~which~~ that includes said reservation means receives such a the table-updating message, ~~and when it~~ and that is not on the path to be reserved, to update a load table.

Claim 101 (currently amended): Communication device according to Claim 87, wherein ~~[[it]]~~ said communication device:

- ~~[[has]]~~ includes a memory, adapted to store a load table containing information relating to ~~[[the]]~~ a load on each link in the network, and
- is adapted, for establishing a connection~~[[:]]~~ for transmitting information in the connected mode:
  - to determine a passband requirement for transmission of ~~[[said]]~~ information in the connected mode,
  - to determine any path available for ~~[[said]]~~ the transmission, according to information stored in ~~[[said]]~~ the load table, and, when an available path is determined,
  - to cause ~~[[the]]~~ said transmission means to send an item of information representing ~~[[said]]~~ the passband requirement, ~~to the~~ to a following communication device on ~~[[said]]~~ the path,
  - to update ~~[[said]]~~ the load table, and
  - to cause ~~[[the]]~~ said transmission means to broadcast, to at least

all the communication devices outside the path, an item of information representing ~~[[said]]~~ the passband requirement.

Claim 102 (canceled)

Claim 103 (previously presented): Computer, comprising a communication device according to Claim 87.

Claims 104-106 (canceled)

Claim 107 (previously presented): Television receiver, comprising a communication device according to Claim 87.

Claims 108 and 109 (canceled)

Claim 110 (previously presented): Audio/video reader, comprising a communication device according to Claim 87.

Claim 111 (currently amended): An information storage means medium, which ~~can be read~~ is readable by a computer or a microprocessor, storing instructions of a computer program, wherein ~~[[it]]~~ said medium allows ~~[[the]]~~ implementation of a

communication method according to Claim 71.

Claim 112 (currently amended): An information storage means medium, which is removable, partially or totally, and which can be read is readable by a computer or a microprocessor, storing instructions of a computer program, wherein [[it]] said medium allows [[the]] implementation of a communication method according to Claim 71.

Claim 113 (currently amended): ~~Method of~~ Communication method for communicating on a network, comprising, for establishing a connection:

A/ performed by a source communication device, which is a source of information to be transmitted in a connected mode (801):

- an operation (1302) of determining a passband requirement for transmission of [[said]] information in the connected mode,

- [[an]] a path determination operation of determining any path available for [[said]] the transmission (1304), according to information stored in a load table for each link in the network, [[and]]

- when an available path is determined:
  - o [[an]] a passband requirement transmission operation of transmitting (305) an item of information representing [[said]] the passband requirement (251) to [[the]] a following communication device on [[said]] the path (803), and

- o [[an]] a table updating operation of updating (1307)



[[said]] the load table for ~~the links~~ each link in the network, and

- an operation of broadcasting, to ~~at least all the~~ communication devices outside the path (805 to 809), an item of information representing [[said]] the passband requirement (253)[[.]]:

B/ performed by each intermediate communication device (803, 804) on

[[said]] the path:

- an operation of determining [[the]] an availability of [[said]] the path (1404), ~~for said~~ for a communication, according to information stored in a load table for each link in the network, and

- when the path is available:

- an operation of transmitting (336) an item of information representing [[said]] the passband requirement to [[the]] a following communication device on [[said]] the path (804, 802), and

- o [[an]] a table updating operation of updating [[said]] the load table (1407) for ~~the links~~ each link in the network[[.]]; and

C/ performed by each communication device outside [[said]] the path (805 to 809):

- [[an]] a table-updating operation of updating a load table for the ~~links~~ each link in the network.

Claim 114 (currently amended): Communication method according to

Claim 113, wherein, during ~~[[the]]~~ said passband requirement transmission operation of transmitting (305) ~~[[said]]~~ the passband requirement (251) to the following communication device on ~~[[said]]~~ the path, the source communication device (801) transmits an item of information representing an application requirement for ~~[[said]]~~ the transmission in the connected mode.

Claim 115 (currently amended): Communication method according to Claim 114, further comprising, performed by each communication device in the network (801 to 809), an operation of determining communication parameters (1303, 1403, 1503) depending on the application requirement, ~~and said~~ whercin the parameters are taken into account in performing ~~[[the]]~~ said table updating operation (1307, 1407, 1504).

Claim 116 (currently amended): Communication method according to Claim 113, further comprising, at ~~[[the]]~~ an end of ~~[[the]]~~ a transmission in the connected mode:

- performed by a communication device ~~which~~ that is a source of information transmitted in the connected mode, an operation of broadcasting (320) an item of information representing ~~[[the]]~~ release of the connection (256), to all ~~[[the]]~~ communication devices in the network (802 to 809), and

- performed by each communication device in ~~[[said]]~~ the network, an operation of updating a load table for ~~the links~~ each link in the network.

Claim 117 (currently amended): Communication method according to Claim 113, wherein, during [[the]] establishment of [[a]] the connection, [[the]] a broadcasting operation of broadcasting (313), to ~~at least all the~~ communication devices outside the path, an item of information representing [[said]] the passband requirement is performed after each communication device on [[said]] the path has performed:

- an operation of determining [[the]] an availability of [[said]] the path; ~~for said~~ for a communication, as a function of information stored in a load table for each link in the network, and
- when the path is available:
  - an operation of transmitting [[said]] the passband requirement to [[the]] a following communication device on the path, and
  - an operation of updating a load table for ~~the links~~ each link in the network.

Claim 118 (currently amended): Communication method according to Claim 113, further comprising, during [[the]] establishment of [[a]] the connection, performed by the source communication device, an operation of determining [[the]] a whole of [[the]] a path (1304) intended to be followed by [[the]] information to be transmitted in the connected mode.

Claim 119 (currently amended): Communication method according to Claim 113, wherein, during [[the]] said passband requirement transmission operation of

transmitting (305) an item of information representing ~~[[said]]~~ the passband requirement to the following communication device on ~~[[said]]~~ the path (251), the source communication device transmits an item of information representing ~~[[said]]~~ the path.

Claim 120 (currently amended): Communication method according to Claim ~~[[113]]~~ 117, wherein, during the broadcasting operation (313), the information representing ~~[[said]]~~ the passband requirement follows a spanning tree for the network ~~where, in~~ which at least half the ~~tree's~~ tree's leaves are intermediate communication devices or ~~[[the]]~~ a destination communication device, on the path associated with the connection.

Claim 121 (currently amended): Communication method according to Claim ~~[[113]]~~ 117, wherein, during the broadcasting operation (313), the information representing ~~[[said]]~~ the passband requirement is broadcast with an item of information representing ~~[[the]]~~ a whole of the path associated with ~~[[said]]~~ the connection.

Claim 122 (currently amended): Communication method according to Claim 113, wherein each load table includes, for each link in the network, a reference (1120) concerning each path ~~which~~ that includes ~~[[said]]~~ the link and which is associated with a connection.

Claim 123 (currently amended): Communication method according to

Claim 122, wherein, with each link in the network, there is associated an item of information representing ~~[[the]]~~ a passband available on ~~[[said]]~~ the link.

Claim 124 (currently amended): Communication method according to Claim 113, wherein each load table includes, for each path, a reference concerning each link ~~which it includes~~ included therein.

Claim 125 (currently amended): Communication method according to Claim 124, wherein, with each path, there is associated an item of information representing ~~[[the]]~~ a passband available on ~~[[said]]~~ the path.

Claim 126 (currently amended): Communication method according to Claim 123, wherein the item of information representing the passband available on ~~[[said]]~~ the path is equal to ~~[[the]]~~ information on ~~[[the]]~~ a passband available on ~~[[the]]~~ a least available link in ~~[[said]]~~ the path.

Claim 127 (currently amended): Communication method according to Claim 123, wherein, during ~~[[the]]~~ said path determination operation (1304), ~~[[the]]~~ a chosen path is a path whose availability is ~~[[the]]~~ highest.

Claim 128 (currently amended): Communication method according to

Claim 113, further comprising, performed by the source communication device, an operation of determining ~~[[the]]~~ a size of ~~[[the]]~~ a packet to be transmitted on the network (1221), taking into account ~~[[the]]~~ a load on ~~[[said]]~~ the network.

Claim 129 (currently amended): Communication method according to Claim 113, further comprising, performed by the source communication device, an operation of determining ~~[[the]]~~ a frequency of sending of packets to be transmitted on the network (1221), taking into account ~~[[the]]~~ a load on ~~[[said]]~~ the network.

Claim 130 (currently amended): ~~Method~~ Communication method according to Claim 113, wherein each communication device effects each transmission of information by packet switching.

Claim 131 (currently amended): ~~Method~~ Communication method according to Claim 113, for communicating between communication devices each able to determine, for each item of information ~~which it has to transmit to be transmitted~~, a path ~~to cause it for the~~ information to follow, further comprising:

- performed by each ~~so-called "source"~~ source communication device ~~which that~~ requires a connection associated with a path, in order to effect a transmission of information to a destination communication device, a connection request operation, during which the source communication device transmits, to each communication device on ~~[[said]]~~ the path, a

request to establish a connection,

- when ~~[[the]]~~ establishment of ~~[[said]]~~ the connection is possible, performed by at least the destination communication device, an operation of sending, to the source communication device, a connection acceptance,
- performed by the source communication device, an operation of broadcasting, to all ~~[[the]]~~ communication devices in the network, an item of information representing the establishment of the connection,
- performed by each communication device on ~~[[said]]~~ the path, on reception of ~~[[said]]~~ the item of information representing the establishment of ~~[[a]]~~ the connection, an operation of confirming the establishment of ~~[[said]]~~ the connection, and
- performed by each communication device outside ~~[[said]]~~ the path, on reception of ~~[[said]]~~ the item of information representing the establishment of ~~[[a]]~~ the connection, an operation of storing in memory an item of information representing ~~[[said]]~~ the connection.

Claim 132 (currently amended): ~~Device~~ Communication device for communicating on a network, comprising:

- a memory (204A) adapted to store a load table containing that includes information relating to ~~[[the]]~~ a load on each link in the network~~[[,]]~~; and
- ~~is adapted;~~ for establishing a connection intended for ~~[[the]]~~ transmission of information in a connected mode:

- ~~to determine~~ passband requirement determination means for determining a passband requirement for the transmission of ~~[[said]]~~ the information~~[[,]]~~ in the connected mode,
  - ~~to determine~~ passband availability determination means for determining any path available for ~~[[said]]~~ the transmission, as a function of information stored in ~~[[said]]~~ a load table, and, ~~when an available path is determined,~~
  - ~~to transmit~~ transmission means for, when an available path is determined, transmitting an item of information representing ~~[[said]]~~ the passband requirement~~[[,]]~~ to ~~[[the]]~~ a following communication device on ~~[[said]]~~ the path,
    - ~~[[to]]~~ update ~~[[said]]~~ means for updating the load table, and
    - ~~[[to]]~~ broadcast means for broadcasting, to ~~at least all the~~ communication devices outside the path, an item of information representing ~~[[said]]~~ the passband requirement,
- ~~the source communication wherein said device which~~ is a source of information to be transmitted in the connected mode being and is adapted to vary a size of data packets to be transmitted on the network ~~with the~~ based on a load on the path and a transmission rate of the packets on ~~[[said]]~~ the path.

Claims 133 and 134 (canceled)

Claim 135 (currently amended): Communication device according to



Claim 132, wherein ~~[[it]]~~ said communication device is adapted, in order to transmit ~~[[said]]~~ the passband requirement to the following communication device on ~~[[said]]~~ the path, to transmit an item of information representing an application requirement for ~~[[said]]~~ the transmission in the connected mode.

Claim 136 (currently amended): Communication device according to Claim 135, further comprising ~~[[a]]~~ parameter determining means ~~[[of]]~~ for determining communication parameters depending on the application requirement, ~~and in that it~~ wherein said communication device is adapted to update the load table whilst taking ~~[[said]]~~ the communication parameters into account.

Claim 137 (currently amended): Communication device according to Claim 132, wherein ~~[[it]]~~ said communication device is adapted, in order to end a transmission in the connected mode, to broadcast an item of information representing ~~[[the]]~~ release of the connection to all ~~[[the]]~~ communication devices in the network, so that each communication device in ~~[[said]]~~ the network updates a load table for ~~the links~~ each link in the network.

Claim 138 (currently amended): Communication device according to Claim 132, wherein ~~[[it]]~~ said communication device is adapted, for ~~[[the]]~~ establishment of the communication, to determine ~~[[the]]~~ a whole of ~~[[the]]~~ a path intended to be followed by the information to be transmitted in the connected mode.

Claim 139 (currently amended): Communication device according to Claim 132, wherein, in order to transmit ~~[[an]] the~~ item of information representing ~~[[said]] the~~ passband requirement to the following communication device on ~~[[said]] the~~ path, ~~[[it]] said~~ communication device is adapted to transmit an item of information representing ~~[[said]] the~~ path.

Claim 140 (currently amended): Communication device according to Claim 132, wherein ~~[[it]] said communication device~~ is adapted to cause the item of information representing ~~[[said]] the~~ passband requirement to follow a spanning tree for the network ~~where,~~ in which at least half the ~~tree's~~ leaves are intermediate communication devices or ~~[[the]] a~~ destination communication device, on the path associated with the connection.

Claim 141 (currently amended): Communication device according to Claim 132, wherein ~~[[it]] said communication device~~ is adapted to broadcast, with the item of information representing ~~[[said]] the~~ passband requirement, an item of information representing ~~[[the]] a whole of [the]] a~~ path associated with ~~[[said]] the~~ connection.

Claim 142 (currently amended): Communication device according to Claim 132, wherein said memory is adapted to store, in each load table, for each link in the network, a reference concerning each path which that includes ~~[[said]] the~~ link and which is associated with a connection.

Claim 143 (currently amended): Communication device according to Claim 142, wherein said memory is adapted to store, in [[said]] a load table, for each link in the network, an item of information representing [[the]] a passband available on [[said]] the link.

Claim 144 (currently amended): Communication device according to Claim 132, wherein said memory is adapted to store, in each load table, for each path, a reference concerning each link ~~which it includes~~ included in the path.

Claim 145 (currently amended): Communication device according to Claim 144, wherein said memory is adapted to store, in each load table, associated with each path, an item of information representing [[the]] a passband available on [[said]] the path.

Claim 146 (currently amended): Communication device according to Claim 143, wherein said memory is adapted to store, in each load table, an item of information representing [[the]] a passband available on [[said]] the path equal to [[the]] information on [[the]] a passband available on [[the]] a least available link ~~in said~~ on the path.

Claim 147 (currently amended): Communication device according to Claim 144, wherein [[it]] said communication device is adapted, in order to determine a path, to choose [[the]] a path whose availability is [[the]] highest.

Claim 148 (currently amended): Communication device according to Claim 132, further comprising [[a]] size determination means [[of]] for determining [[the]] a size of [[the]] a packet to be transmitted on the network adapted to take, wherein said size determination means takes into account [[the]] a load on [[said]] the network.

Claim 149 (currently amended): Communication device according to Claim 132, further comprising [[a]] frequency determination means [[of]] for determining [[the]] a frequency of sending of packets to be transmitted on the network adapted to take, wherein said frequency determination means takes into account [[the]] a load on [[said]] the network.

Claim 150 (currently amended): ~~Device~~ Communication device according to Claim 132, wherein [[it]] said communication device is adapted to effect each transmission of information by packet switching.

Claim 151 (currently amended): Communication device according to Claim 132, on a network having that includes communication devices each able to determine [[the]] a path to be followed by each item of information which it has to send to be transmitted, wherein [[it]] said communication device is adapted, when it requires a connection associated with a path is required, in order to effect a transmission of information to a destination communication device:

- to cause [[the]] transmission means to send, to each communication

device on ~~[[said]]~~ the path, a message requesting ~~[[the]]~~ establishment of a connection, and

- on reception of a connection acceptance message coming from ~~[[the]]~~ a destination communication device, to cause ~~[[said]]~~ the transmission means to broadcast, to all the communication devices in the network, a message containing information on the establishment of the connection.

Claims 152-159 (canceled)

Claim 160 (currently amended): An information storage means medium, which ~~can be read~~ is readable by a computer or a microprocessor, storing instructions of a computer program, wherein ~~[[it]]~~ the computer program allows ~~[[the]]~~ implementation of a communication method according to Claim 113.

Claim 161 (currently amended): An information storage means medium, which is removable, partially or totally, and which ~~can be read~~ is readable by a computer or a microprocessor, storing instructions of a computer program, wherein ~~[[it]]~~ the computer program allows ~~[[the]]~~ implementation of a communication method according to Claim 113.

Claim 162 (currently amended): ~~Method of~~ Communication method for communicating on a network, between communication devices each able to determine ~~[[the]]~~ a path to be followed by each item of information ~~which it has to transmit~~ to be transmitted, said

method comprises comprising:

- performed by ~~each so-called "source"~~ a source communication device (801) ~~which that~~ requires a connection associated with a path, in order to effect a transmission of information to a destination communication device (802), an operation (305) requesting a connection, during which the source communication device transmits, to each communication device on ~~[[said]]~~ the path, a request to establish a connection (251)[[.]];
  - when establishment of ~~[[said]]~~ a connection is possible, performed by at least the destination communication device, an operation of transmitting (381), to the source communication device, a connection acceptance (252)[[.]];
    - performed by the source communication device, an operation of broadcasting (313), to all ~~[[the]]~~ communication devices in the network, an item of information representing the establishment of the connection (253)[[.]];
      - performed by each communication device on ~~[[said]]~~ the path (803, 804), on reception of ~~[[said]]~~ the information representing the establishment of ~~[[a]]~~ the connection, an operation (345) of confirming the establishment of ~~[[said]]~~ the connection[[.]]; and
        - performed by each communication device outside ~~[[said]]~~ the path (805 to 809) on reception of ~~[[said]]~~ the information representing the establishment of ~~[[a]]~~ the connection, an operation of storing in memory an item of information representing ~~[[said]]~~ the connection (418).

Claim 163 (currently amended): Communication method according to Claim 162, wherein each communication device on [[said]] the path (803, 804) performs, on reception of the request to establish a connection (251), [[an]] a verification operation of verifying [[the]] a possibility of establishing [[said]] a connection (1404).

Claim 164 (currently amended): Communication method according to Claim 163, wherein each communication device on [[said]] the path (803, 804), when, during the verification operation (1404), the possibility of establishing the connection has been verified, performs an operation of reserving resources necessary for [[said]] the connection (1407).

Claim 165 (currently amended): Communication method according to Claim 163, wherein each communication device on [[said]] the path (803, 804), when, during the checking verification operation (1404), the possibility of establishing the connection is not verified, performs an operation of transmitting (380), to the source communication device (801), an item of information representing [[the]] an impossibility of setting up [[the]] a connection by [[said]] an intermediate communication device.

Claim 166 (currently amended): Communication method according to Claim 162, wherein, when establishment of [[said]] a connection is possible, the operation of transmitting (381), to the source communication device, an item of information (252) representing a connection acceptance[[.]] is performed solely by the destination communication

device (802).

Claim 167 (currently amended): Communication method according to Claim 166, wherein, in order to transmit ~~[[said]]~~ the item of information representing a connection acceptance (252), the destination communication device (802) performs an operation of choosing a path independent of the path associated with the connection currently being established.

Claim 168 (currently amended): Communication method according to Claim 162, further comprising, during the establishment of ~~[[a]]~~ the connection, performed by each communication device (801 to 809) in the network, an updating operation of updating a load table containing that includes information representing loads on links in the network incorporated in a path associated with a connection.

Claim 169 (currently amended): Communication method according to Claim 168, wherein, for ~~[[the]]~~ intermediate (803, 804) and destination (802) communication devices in the network, the ~~load table~~ updating operation is performed on reception of the request to establish a connection (251).

Claim 170 (currently amended): Communication method according to Claim 169, wherein, for ~~[[the]]~~ communication devices in the network situated outside the path



associated with the connection currently being established (805 to 809), the load-table updating operation is performed on reception of the information representing the establishment of [[a]] the connection.

Claim 171 (currently amended): Communication method according to Claim 162, wherein [[the]], in said operation of broadcasting (313)[[,]] to all the communication devices in the network (802 to 809)[[,]] an item of information representing the establishment of the connection, an operation performed by the source communication device (801)[[,]] is performed on a spanning tree for the network where, in which at least half the tree's leaves are intermediate communication devices or the destination communication device, on the path associated with the connection.

Claim 172 (currently amended): Communication method according to Claim 162, wherein the request (251) to establish a connection, sent by the source communication device (801), includes an item of information representing [[the]] an application requirement for [[the]] transmission in a connected mode associated with [[said]] the connection.

Claim 173 (currently amended): Communication method according to Claim 162, wherein the ~~connection-establishment~~ request (251) to establish a connection, sent by the source communication device (801), includes an item of information representing the path associated with the connection currently being established.

Claim 174 (previously presented): Communication method according to Claim 162, wherein each communication device (801 to 809) effects each transmission of information by packet switching.

Claim 175 (currently amended): ~~Device~~ Communication device for communicating on a network having communication devices (801 to 809) each able to determine the path to be followed by each item of information which it has to transmit, wherein it is adapted, when it requires a connection associated with a path, to effect a transmission of information to a destination communication device, comprising:

- to cause a transmission means, adapted to transmit, to each communication device (802 to 804) on said a path to a destination communication device, an item of information requesting (251) the establishment of a connection[[,]]; and
- ~~on reception of an item of information on the acceptance of a~~ connection (252) coming from the destination communication device, to cause said transmission means broadcast means, adapted to broadcast, to all [[the]] communication devices in the network (802 to 809), an item of information on the establishment of the connection (253), the device being adapted so that the request to establish a connection, sent by the source communication device, includes an item of information representing an application requirement for the transmission in connected mode associated with said connection on reception of an item of information on an acceptance of a connection coming from the destination communication device.

wherein a communication device that is a source of information to be transmitted in a connected mode includes variation means for varying a size of data packets with a load on the path and a transmission rate of the packets on the path, in order to avoid congestion on the network.

Claim 176 (currently amended): Communication device according to Claim 175, wherein [[it]] said communication device is adapted, when [[it]] said communication device is the destination communication device (802) for a request to establish a connection (251), to determine whether [[the]] establishment of [[said]] a connection is possible and, in this case if a connection is possible, to cause [[the]] said transmission means to transmit, to the source communication device (801), an item of information on [[the]] an acceptance of the connection (252).

Claim 177 (currently amended): Communication device according to Claim 175, wherein [[it]] said communication device is adapted, when it receives an item of information on the establishment of the connection (251) is received and when [[it]] said communication device is situated on the path associated with the connection currently being established, to confirm the establishment of [[said]] the connection.

Claim 178 (currently amended): Communication device according to Claim 175, wherein [[it]] said communication device is adapted, when it receives an item of

information on the establishment of the connection (253) is received and when ~~[[it]]~~ said communication device is not situated on the path associated with the connection currently being established, to store in memory an item of information representing ~~[[said]]~~ the connection.

Claim 179 (currently amended): Communication device according to Claim 175, wherein ~~[[it]]~~ said communication device is adapted, when it is a said communication device is on a path associated with a connection currently being established (802 to 804), to verify ~~[[the]]~~ a possibility of establishing ~~[[said]]~~ the connection (1404), on reception of the request to establish a connection (251).

Claim 180 (currently amended): Communication device according to Claim 179, wherein, after having verified the possibility of establishing the connection (1404), said communication device (802 to 804) is adapted to reserve ~~[[the]]~~ resources available to ~~[[it]]~~ said communication device and which are necessary for ~~[[said]]~~ the connection.

Claim 181 (currently amended): Communication device according to Claim 179, wherein ~~[[it]]~~ said communication device is adapted, when the possibility of establishing the connection is not verified, to cause ~~[[the]]~~ said transmission means to transmit, to the source communication device (801), an item of information representing ~~[[the]]~~ an impossibility of setting up ~~[[the]]~~ a connection by said ~~intermediate~~ communication device.

Claim 182 (currently amended): Communication device according to Claim 175, wherein, when [[the]] establishment of [[said]] the connection is possible, [[it]] said communication device is adapted to cause [[the]] said transmission means to transmit, to the source communication device (801), [[the]] an item of information representing a connection acceptance (252), solely when [[it]] said communication device is a destination communication device (802).

Claim 183 (currently amended): Communication device according to Claim 182, wherein, in order to cause [[said]] the item of information representing a connection acceptance (252) to be transmitted, the destination communication device (802) is adapted to choose a path independently of a path associated with the connection currently being established.

Claim 184 (currently amended): Communication device according to Claim 175, further comprising a memory (204A) adapted to store a load table containing that includes information representing loads on links in the network incorporated in a path associated with a connection ~~and in that it,~~ wherein said memory is adapted to update [[said]] the load table.

Claim 185 (currently amended): Communication device according to Claim 184, wherein [[it]] said communication device is adapted, when [[it]] said communication device is an intermediate (803, 804) communication device or a destination (802) communication device, to update the load table on reception of the request to establish a connection (251).

Claim 186 (currently amended): Communication device according to Claim 185, wherein [[it]] said communication device is adapted, when [[it]] said communication device is situated outside the path associated with the connection currently being established, to update the load table on reception of [[the]] information representing [[the]] establishment of a connection (253).

Claim 187 (currently amended): Communication device according to Claim 175, wherein [[it]] said communication device is adapted to cause [[the]] said transmission means to broadcast, to all the communication devices in the network (802 to 809), an item of information representing the establishment of the connection (253), causing [[this]] the item of information to follow a spanning tree for the network where, in which at least half the tree's leaves are intermediate communication devices or the destination communication device, on the path associated with the connection.

Claim 188 (canceled)

Claim 189 (currently amended): Communication device according to Claim 175, wherein [[it]] said communication device is adapted so that the request to establish a connection (251), sent by the source communication device (801), includes an item of information representing the path associated with the connection currently being established.

Claims 190-198 (canceled)

Claim 199 (currently amended): An information storage means medium, which ~~can be read~~ is readable by a computer or a microprocessor, storing instructions of a computer program[[.]] that allows [[the]] implementation of a communication method according to Claim 162.

Claim 200 (currently amended): An information storage means medium, which is removable, partially or totally, and which ~~can be read~~ is readable by a computer or a microprocessor storing instructions of a computer program, wherein [[it]] the computer program allows [[the]] implementation of a communication method according to Claim 162.

Claim 201 (currently amended): Communication method according to claim 1, wherein ~~the communication device which is a source of information to be transmitted in connected mode performs an~~ said adjustment operation of adjusting an allocated passband concerns a connected-mode transmission, and wherein said adjustment operation includes varying [[the]] a size of data packets transmitted in the connected mode with a load on the a path and a transmission rate of the packets on the path performed by a communication device that is a source of information.

Claim 202 (currently added): Communication device according to claim 31,

wherein [[the]] said communication device ~~which~~ is a source of information to be transmitted in the connected mode and further comprises [[a]] variation means ~~adapted~~; for varying [[the]] a size of data packets with a load on [[the]] a path and a transmission rate of the packets on the path.

Claim 203 (currently added): Communication method according to claim 71, wherein [[the]] a communication device ~~which~~ that is a source of information to be transmitted in the connected mode performs an operation of varying [[the]] a size of data packets with a load on [[the]] a path and a transmission rate of the packets on the path.

Claim 204 (currently added): Communication device according to claim 87, wherein [[the]] said communication device ~~which~~ is a source of information to be transmitted in the connected mode and further comprises [[a]] variation means ~~adapted~~; for varying [[the]] a size of data packets with a load on [[the]] a path and a transmission rate of the packets on the path.

Claim 205 (currently amended): Communication method according to claim 162, wherein [[the]] a communication device ~~which~~ that is a source of information to be transmitted in the connected mode performs an operation of varying [[the]] a size of data packets with a load on [[the]] a path and a transmission rate of the packets on the path.



Claim 206 (canceled)

Claim 207 (new): Communication method according to claim 1, wherein said adjustment operation of adjusting the allocated passband concerns a non-connected-mode transmission, and wherein said adjustment operation further comprises the following steps performed by a communication device that is a source of information:

- determining a free time during a predefined interval of time after sequencing of all connected-mode transmissions and non-connected-mode transmissions; and
- regulating the allocated passband to non-connected-mode transmissions based on the determined free time.

Claim 208 (new): Communication device according to claim 31, wherein adjustment of the allocated passband concerns connected-mode transmissions, and wherein said adjust means comprises, when said communication device is a source of information, means for varying a size of data packets transmitted in the connected mode with a load on a path and a transmission rate of the packets.

Claim 209 (new): Communication device according to claim 31, wherein adjustment of the allocated passband concerns non-connected-mode transmissions, and wherein said adjustment means comprises, when said communication device is a source of information:

- means for determining a free time during a predefined interval of time

after sequencing of all connected-mode transmissions and non-connected-mode transmissions,  
and

- means for regulating the allocated passband to non-connected-mode transmissions based on the determined free time.

Claim 210 (new): A method of transmitting data on a network, which includes a plurality of communication devices, between a source communication device sending data and a destination communication device receiving the data, wherein the data is transmitted along a path that may contain intermediate communication devices forwarding the data; using a bandwidth shared between communication devices along the path, and wherein the network is adapted to transmit data in a connected mode and in a non-connected mode, said method comprising:

when the data is transmitted in the connected mode:

- a bandwidth allocation operation of allocating a bandwidth, if a necessary bandwidth is available along the path to the destination communication device, and
- an information operation during which the source communication device informs all other communication devices in the network about the allocated bandwidth; and

when the data is transmitted in the non-connected mode:

- a second bandwidth allocation operation during which the source communication device allocates part or all of the bandwidth, which is not allocated during

the bandwidth allocation operation in the connected mode, and

an adjustment operation of adjusting the allocated bandwidth to avoid  
congestion on the network.